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[Superseding IS 8543 (Part II/Sec 2) : 1977]

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प्लास्टिक — परीक्षण पद्धतियाँ

भाग 3 भौतिक और आयामीय गुणधर्म

अनुभाग 3 संचकन सामग्री का आभासी घनत्व ज्ञात करना जिसे एक विशेष फनल से न बहाया जा सके

Indian Standard

PLASTICS — METHODS OF TESTING

PART 3 PHYSICAL AND DIMENSIONAL PROPERTIES

Section 3 Determination of Apparent Density of Moulding Material that cannot be Poured from a Specified Funnel

ICS 83.080

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September 1997

Price Group 1

Methods of Test for Plastics Sectional Committee, PCD 23

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 61 : 1976 'Plastics — 'Determination of apparent density of moulding material that cannot be poured from a specified funnel' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of Methods of Test for Plastics Sectional Committee and approval of the Petroleum, Coal and Related Products Division Council.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

IS 8543 (Part II/Sec 2) : 1977 'Methods of testing plastics : Part II Testing of materials before moulding, Section 2 Determination of apparent density of moulding material that cannot be poured from a funnel' had been published for this method. This Indian Standard is under dual numbering with latest ISO standard. With the publication of this standard, IS 8543 (Part II/Sec 2) : 1977 will get withdrawn.

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard
PLASTICS — METHODS OF TESTING
PART 3 PHYSICAL AND DIMENSIONAL PROPERTIES
Section 3 Determination of Apparent Density of Moulding Material that cannot be Poured from a Specified Funnel

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of determining the apparent density, i.e. the mass per unit of volume, of loose moulding material that cannot be poured from a funnel of specified design.

NOTE – For a method of determining the apparent density of loose moulding material that can be poured from a specified funnel, see ISO 60.

A knowledge of apparent density is of limited value in estimating the relative fluffiness or bulk of moulding materials, unless their densities in the moulded condition are approximately the same.

2 APPARATUS

2.1 Balance, accurate to 0,1 g.

2.2 Measuring cylinder, smoothly finished inside, which may be constructed of metal, of capacity 1 000 ± 20 ml and internal diameter 90 ± 2 mm.

2.3 Plunger, consisting of a hollow cylinder of mass 2 300 ± 20 g, closed at one end and having an external diameter slightly smaller than the internal diameter of the measuring cylinder. The plunger may conveniently be weighted with lead shot.

3 PROCEDURE

3.1 Drop 60 ± 0,2 g of loose moulding material, little by little, into the measuring cylinder (2.2) so that it is distributed evenly with its surface as level as possible. Lower the plunger (2.3) slowly into the measuring cylinder until it is entirely supported by the material. After 1 min, measure the height of the material, with the plunger resting upon it, to the nearest 1 mm. A convenient method of measuring the height of the material is, for example, by means of a suitable scale marked vertically on the outside surface of the plunger.

3.2 Make three determinations on the sample of moulding material under test.

4 EXPRESSION OF RESULTS

The apparent density of the moulding material under test is given, in grams per millilitre (see note) by the formula

$$\frac{m}{A\,h}$$

where

m is the mass, in grams, of the material placed in the measuring cylinder (i.e. 60);

A is the internal cross-sectional area of the measuring cylinder, in square centimetres;

h is the height of moulding material in the measuring cylinder, in centimetres.

NOTE — Although apparent density is calculated in grams per cubic centimetre, it is expressed here in grams per millilitre for the sake of uniformity with ISO 60. No adjustment of the test result is required.

Take as the result the arithmetic mean of the results of the three determinations.

5 TEST REPORT

The test report shall include the following particulars :

a) complete identification of the material tested;

b) the individual results and the mean.

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